

ARTICLE 7 -- EROSION CONTROL AND STORMWATER MANAGEMENT

7.1.0 INTENT; APPLICATION

- A. Land disturbance and other forms of site excavation can contribute to the degradation of land surfaces and streams, erosion, siltation, earth slides, mud flows, dusty conditions, clogged storm sewers, additional road maintenance cost, increased water runoff and localized flooding. It is the intent of this article to protect the health and safety of residents and adjoining or nearby property in the town, including land, waterways, hills and vegetation through the regulation of erosion control measures.
- B. Except as otherwise provided for, the following regulations shall apply in all zoning districts as shown on the zoning map of the town.

7.1.1 Definitions

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Cut -- The portion of land surface or area from which earth has been or will be removed by excavation; also, the depth below original ground surface to excavated surface.

Erosion -- any removal or loss of soil by the action of wind and water. Erosion includes both the detachment and transportation of soil particles.

Erosion control measures -- one or more of the following measures, or other methods of slowing or stopping the removal of soil by wind, water, ice, or gravity used singularly or in combination as appropriate:

- A. **Diversion:** A swale or channel with supporting ridge (berm, dike or wall) constructed across a sloping land surface along the contour, or with predetermined grades, to intercept and divert surface runoff before it gains sufficient volume or velocity to create conditions of erosion.
- B. **Drains:** Underground conduits or filter drains to reduce surface runoff or lower a high water table.
- C. **Grade stabilization structures:** Drop structures made of concrete, corrugated metal pipe or other suitable materials which dissipate the energy of flowing water by dropping it in a relatively short horizontal distance.
- D. **Grassed waterways:** A natural or constructed waterway, usually broad and shallow, covered with erosion-resistant grasses used to carry surface water.
- E. **Land grading:** Reshaping the ground surface by grading to planned slopes and configurations that will prevent excessive erosion conditions.
- F. **Mulching:** The application of plant or other suitable materials on the soil surface to conserve moisture, reduce erosion and aid in establishing plant cover.
- G. **Sediment barriers:** A temporary barrier installed to intercept runoff containing sediment. The barrier shall filter sediment and allow runoff to pass through.

Sediment barriers may include straw bale barriers and silt fences when installed as shown in Illustration Nos. 1 and 2.

Excavation -- the act of removing dirt or soil (see *Cut*).

Fill -- the portion of land surface or area to which soil, rock or other materials have been or will be added; height above original ground surface after the material has been or will be added.

Grade -- the slope or elevation of the ground surface prior to or after cutting and filling.

Grading -- any operation or occurrence by which the existing site elevations are changed by cutting, filling, borrowing or stockpiling, or where any ground cover, natural or manmade, is removed, or any buildings or other structures are removed or any watercourse or body of water, either natural or manmade, is relocated on any site, thereby creating an unprotected area. Grading shall be synonymous with land disturbance activity.

Immediate threat to public health and safety -- a very serious threat to the community or adjacent property including, but not limited to, clogged drainage ditches, flooding of adjacent properties, threat of landslides or other problems which should be resolved without delay. In instances where this is the case, verbal instructions to remedy the situation with follow-up of written notification shall be sufficient to meet the notification requirements of this article.

Land disturbance plan -- the plan required before a grading permit may be issued. It consists of a narrative description and appropriate drawings and plans that spell out the methods, techniques and procedures to be followed on a site to control erosion and other potential degradation of adjoining or nearby properties, during and after development, including methods of temporary measures, maintenance measures and final stabilization of the site and project.

Owner -- the person or entity holding the registered title to property. The County property tax rolls shall be prima facie evidence that the person or entity listed therein is the registered owner.

Permit holder -- the owner of the property or the owner's representative in whose name a permit has been applied for and issued by the Town.

Sediment -- rocks, sand, gravel, silt or other material deposited by action of wind, water or gravity.

Sedimentation -- the action of settling out of the soil particles which are transported by wind, water or gravity.

Stripping -- any activity which removes or significantly disturbs the vegetative cover, including clearing and grubbing operations and top soil stripping.

7.1.2 Grading permit

- A. Required** Except as otherwise exempted in Appendix C for Single Family Homes, no individual, property owner or other legal entity shall engage in any land-disturbing activity which will modify the existing grade and/or may result in increased soil erosion or sedimentation including, but not limited to, clearing, stripping, grading, excavation, transporting and filling unless a grading permit has first been obtained from the Mayor or his designee. The owner of the property or his representative shall complete an application for the permit on forms provided by the Mayor or his designee and shall submit a proposed land disturbance plan with the application. The property owner shall be responsible for compliance with all provisions of this article. The grading permit does not preclude additional permits or authorization required by Federal entities, the State of Tennessee or the Town. The Town may delay issuance of the Town's permit pending the receipt of Federal and/or State permits.
- B. Planning Commission authorization** In instances where a proposed land disturbance activity will exceed five acres or will occur on any tract as a part of an overall commercial or service/institutional site development plan, or will occur as a part of an environmental restoration project under the supervision of the United States Environmental Protection Agency or the Tennessee Department of Environment and Conservation or their successors, no grading permit shall be issued by the Mayor or his designee until the land disturbance plan is reviewed and approved by the Planning Commission.
- C. Fees** The Town, may impose additional fees by resolution in order to defray costs associated with the processing of permits and for inspections of land disturbance activities.
- D. Expiration** A grading permit shall become void six (6) months from the date of issuance unless substantial progress has been made on the project by that time.

7.1.3 Properties exempt from obtaining a grading permit

The following uses and activities shall be exempt from the requirement to obtain a grading permit. Erosion and sediment control must still be implemented, per Section 7.1.4 of this ordinance.

- A. Single-family residence** The construction of a single-family residence or addition to an existing single-family residence on a lot with a grade less than 15 percent provided, however, such construction shall be required to comply with the erosion control requirements.
- B. Public utilities and roadway construction** The installation, maintenance and repair of any public utility as well as public roadway and storm drainage construction and maintenance by governmental agencies and/or their agents; provided, however, that such land disturbing activity shall comply fully with the rules and regulations set forth by the Tennessee Department of Environment and Conservation and the Town's erosion control and sediment control requirements.

- C. **Subdivision Development** Subdivision development activities are NOT exempt from the requirements for obtaining a grading permit.
- D. **Agricultural use** Farming or other accepted agricultural uses, as identified in the Tennessee Right to Farm Act (T.C.A. § 43-26-103), or as hereafter amended.
- E. **Lawns/gardens/landscaping** Home gardens, home landscaping or lawn preparations on existing lots or parcels shall be exempted from the provisions stated in this article unless the possibility for erosion or alteration of drainage patterns or structures is such to necessitate a grading permit.

7.1.4 Land disturbance plan

The land disturbance plan shall comply with the minimum general and technical requirements set forth in this section. The complexity of the plan shall be commensurate with the severity of site conditions and potential for off-site damage. The Mayor or his designee may require additional information if deemed necessary and appropriate to evaluate the feasibility of the plan.

- A. **Plan required** Except as otherwise exempted from the requirements of this article, a land disturbance plan shall be required prior to the issuance of a grading or building permit. The plan shall identify the specific and appropriate erosion control practices and sediment trapping facilities proposed for the site to be disturbed as well as a schedule for implementation and maintenance. The plan shall also identify final stabilized conditions for the site, provisions for removing temporary control measures and stabilization of the site when temporary measures are removed, permanent stormwater conveyance structures and maintenance requirements for any permanent measures.
- B. **Professional design** The land disturbance plan shall be developed by a qualified professional engineer, licensed to practice in the state, when the area of disturbance exceeds five acres or by either a qualified professional engineer or qualified landscape architect licensed to practice in the state for smaller areas when potentially hazardous soil or drainage conditions exist due to types of soils, steep grades, floodplain development or nearby lakes, streams or large drainage ditches.
- C. **Erosion control** Erosion control measures shall be designed and provided in accordance with generally accepted engineering practices and the requirements of this article. Areas that are to be developed or excavated shall apply these guidelines, fitting the appropriate measures to the specific soils and topography so as to minimize soil erosion and surface water runoff. The erosion control shall be maintained until the yard, or disturbed area is significantly established and replaced.
- D. **Protection of natural vegetation and trees** Natural vegetation shall be retained and protected whenever feasible during construction. If an area is stripped of vegetation during construction, the exposed area shall be limited to the smallest practical size, and duration of the exposure limited to the shortest practical time.
- E. **Minimum information required** It shall be at the discretion of the Mayor or his designee to determine how much information is necessary to obtain a permit. At a minimum, the following information shall be required.

1. Name, address, telephone number, and facsimile number if applicable of the permit holder, and the owners and developer; if other than the permit holder, for the property to be graded.
2. The registration seal and signature of the engineer or landscape architect, who prepared, designed and reviewed the plan.
3. A brief project description.
4. A plan drawn to a scale no less than one inch equals 100 feet, including predevelopment topographic conditions and post-development grades. The contour interval shall be no greater than two feet. The plan shall include off-site existing topographic conditions extended to a minimum of 25 feet beyond the boundaries of the subject tract of land if grading is designed to be within 20 feet of any boundary line. The pre-development conditions survey shall also include information on all public roads adjoining the subject property. The topographic data shall be obtained by field survey or acceptable aerial photography (two-foot contours). U.S.G.S. based topographic data is not acceptable.
5. The site location, boundaries, adjacent properties, location of any existing or proposed buildings or structures on the property or on adjacent land within 100 feet of the area to be disturbed, floodplain areas, ditch lines and any existing on-site and off-site structural or natural features of the land which have a significant impact on drainage or sediment control.
6. The location and a description of temporary and permanent erosion control measures and drainage appurtenances to be constructed and structural changes and improvements to the land, including clearing and grading limits, daily cleanup and site control practices and other activities to mitigate the adverse impact of land disturbance.
7. The Mayor or his designee may require a geotechnical report be provided as part of the Land Disturbance Plan. The report shall be prepared by a Tennessee registered professional engineer, qualified to perform geotechnical engineering.

A time schedule for initiation and completion of the measures and devices and periodic maintenance after completion.

7.1.5 Construction access routes A stabilized stone pad shall be placed at any point where traffic will be entering and leaving a construction site to or from a public road prior to the initiation of any grading work. Stone pads shall contain ASTM-1 stone, six inches thick (minimum), and shall be placed from the public road into the construction site a minimum width of 12 feet and length of 100 feet for commercial and 50 feet for residential. Construction of a single-family home shall have a stone pad placed as described. These pads shall be maintained and/or reconstructed when they lose effectiveness.

7.1.6 Cut and fill slopes Permanent cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Consideration shall be given to the length and steepness of the slope, the soil type, upslope drainage area, groundwater conditions and other applicable factors. Any slopes installed at two foot horizontal to one foot vertical or

steeper shall be stabilized with rock riprap, geo-textile fabric, or other acceptable method approved by the Mayor or his designee.

7.1.7 Stabilization of denuded areas and soil stockpiles Permanent erosion control measures shall be applied to denuded areas within 15 days after final grade is reached on any portion of the site. Soil stabilization shall also be applied within 15 days to any denuded area which may not be at final grade, but will remain dormant (undisturbed by construction activity) for longer than 60 days. Any temporary soil stockpiles shall be stabilized or protected with sediment trapping measures to prevent erosion. Applicable erosion control measures shall include establishment of vegetation, mulching and the early application of gravel base on areas to be paved. Selected permanent or temporary erosion control measures should be appropriate for the time of year, site conditions and estimated duration of use.

7.1.8 Establishment of permanent vegetation A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized through the construction of approved structures and parking lots or driveways. Permanent vegetation shall not be considered stabilized until a ground cover is achieved, which in the opinion of the Mayor or his designee is mature enough to control erosion and to survive seasonal conditions for a period of one year from initial planting.

7.1.9 Protection of adjacent properties

- A. **Downslope protection** All properties adjacent and/or downslope from the site of a land disturbance shall be protected from soil erosion and sedimentation. This shall be accomplished by preserving a well-vegetated buffer strip around the lower perimeter of the land disturbance or by installing perimeter controls such as sediment barriers, filters or dikes, or sediment basins, or by a combination of such measures.
- B. **Use of buffer strips** Vegetated buffer strips shall be used alone only where stormwater runoff is anticipated to occur through sheet flow and shall be a minimum of 20 feet in width. If at any time it is found that a vegetated buffer strip alone is ineffective in stopping erosion onto adjacent property, additional perimeter controls shall be provided by the owner.
- C. **Sediment control** Sediment basins and traps, perimeter dikes, sediment barriers, dams, diversions and other erosion control measures intended to trap sediment on-site shall be constructed as the first step in grading and shall be made functional prior to disturbance of upslope land. Earthen structures such as dams, dikes and diversions shall be seeded and mulched within seven days of installation.
- D. **Stormwater runoff** Stormwater runoff from disturbed areas five acres or greater shall pass through a sediment basin or other suitable sediment trapping facility. All storm drainage inlets shall be protected during construction with a sediment barrier to prevent clogging and localized flooding. All means of protection shall be maintained and monitored throughout construction.

7.1.10 Disturbance in streams and floodways The applicant for proposed land disturbance activities in streams, and intermittent streams as defined by TDEC, generally indicated by

a blue line on a 7 1/2 minute United States Geological Survey quadrangle and designated floodways shall be required to provide evidence of obtaining appropriate permits from federal and state regulatory agencies or a written waiver of such permits prior to the issuance of a grading permit by the town.

- 7.1.11 Existing areas with soil erosion problems** Upon written notification from the Mayor or his designee, the owner of any parcel of land which exhibits unstable or eroding soil conditions, and impacts downslope properties, public right-of-ways or watercourses shall correct the problem within 90 calendar days from receipt of official notification. Upon written request to the Mayor, the period for correction may be extended if seasonal conditions warrant and temporary erosion control measures are installed. Minimum corrective measures may include stabilizing eroding slopes and re-vegetating all exposed soil surface. Before commencing corrective measures, the owner shall consult with the Mayor or his designee to determine an acceptable method of correction. A permanent plan for erosion control shall be submitted to the Mayor or his designee for review and approval prior to initiation of corrective measures.

7.2.0 PERFORMANCE BONDS

Prior to the issuing of a permit for any land disturbance activity, the applicant shall be required to provide a performance bond or similar form of security acceptable to the Town to complete all land and grade stabilization measures and improvements as shown by the approved plan. The Mayor or his designee shall establish the amount and time period of the bond, based on the estimated cost and time for completing the plan. Within 30 days of the completion and final inspection by the Town of all provisions of the approved plan, such bond or security shall be refunded or terminated, provided, however, that a maintenance bond no greater than 50 percent nor less than ten percent of the original bond as determined by the Mayor or his designee shall be required for a period of one year to ensure that the permanent vegetation is mature enough to control erosion and to survive seasonal weather conditions.

7.3.0 APPEALS

Whenever the Mayor or his designee rejects or refuses to approve the mode or manner of construction proposed to be followed, or materials to be used, or when it is claimed that the provisions of this article do not apply or that an equally good or more desirable form of construction can be employed in any specific case, or when it is claimed that the true intent and meaning of this article or any of the regulations thereunder have been misconstrued or wrongly interpreted, the owner of such property or his duly authorized agent may appeal the decision to the Planning Commission. Notice of appeal shall be in writing and filed within 30 days after the Mayor or his designee renders the decision. A filing fee of \$50.00 shall accompany such notice of appeal, which shall be refundable if the Planning Commission upholds the appeal of the applicant. The Planning Commission shall meet and conduct a hearing on the appeal within 60 days, unless the applicant requests or consents to additional time.

7.4.0 INSPECTIONS

- A. Permit holder's responsibility** It shall be the responsibility of the grading permit holder to:
1. Provide in writing an anticipated phasing plan and schedule of the land disturbance activities from initiation to completion. The permit holder shall promptly notify the Town in writing if there are any changes to the schedule or delays associated with the phasing plan; and
 2. Conduct periodic inspections of the installed erosion control measures during construction and of nearby downstream facilities, to determine if such control is effective. Any damage to downslope property caused by erosion, such as clogged storm sewers, inlets or drainage ditches, shall be immediately repaired or cleaned by the permit holder.
- B. Town authority** The Mayor or his designee may enter upon any site and periodically make inspection of any disturbed or graded area before, during and after construction to ensure compliance with the requirements of this article and the authorized land disturbance plan. If the Town determines that significant erosion problems are occurring on the site despite compliance with approved protective practices, the permit holder shall be required to take additional corrective actions to protect the adversely affected area. The specifications of the additional measures shall be part of an amendment to the land disturbance plan.
- C. Correction of problems by owner** If it is determined by the Mayor or his designee that the permit holder has failed to comply with the approved plan, a correction notice shall immediately be served upon the permit holder in writing, setting forth the measures needed to come into compliance and specifying time for such compliance. Where an immediate threat to public health and safety exists, verbal notice given by the Mayor or his designee to immediately correct the problem shall be sufficient, but it shall be followed by written notice. Failure to comply within the time specified shall subject the permit holder to a stop work order which shall remain in effect until the work in progress is in compliance with the specifications of the approved plan. The issuance of a stop work order shall not preclude other remedial or punitive actions which may be taken under this Code or state law.

7.5.0 TOWN CORRECTION/COLLECTION PROCEDURES

- A. All temporary and permanent erosion control measures shall be maintained and repaired as needed by the property owner to assure continued performance of their intended function. If it is determined that a property owner has failed to correct an existing unstable or eroding soil condition which impacts downslope properties, public rights-of-way or watercourses or has failed to maintain temporary and permanent erosion control measures installed after 14 (fourteen) days, or has failed to comply with any of the provisions of this article, a corrective notice shall be sent by certified mail to the property owner, setting forth the measures needed to come into compliance and specifying time for such compliance. When an immediate threat to public health and safety exists, verbal notice given by the Mayor or his designee to the property owner to immediately correct the problem shall be sufficient, but it shall be followed by written notice within seven days.

Should the property owner fail to remedy the above conditions within the prescribed time, the Mayor or his designee may direct that the condition be remedied by an appropriate Town department or outside contractual arrangement. Upon completion of work, the Mayor or his designee shall determine the reasonable costs thereof and bill the owner of the property. Should the owner fail to remit to the Town the amount of such charge within 30 days from date of such invoice, the amount of the bill shall be certified to the Town Attorney, who shall perfect a lien upon the property for which the expenditure was made.

7.6.0 STORMWATER MANAGEMENT

- A. Purpose.** The intent of this section is to protect the health and safety of the residents of the Town; to control the level and intensity of stormwater runoff consistent with existing runoff levels; to minimize expenditure of public funds for costly flood control projects; to minimize the need for rescue and relief efforts associated with flooding; to maximize beneficial use of land without incurring flood hazard potential; to ensure a functional drainage system that will not result in excessive maintenance costs; to encourage the use of natural and aesthetically pleasing design; to ensure water quality; and to protect or improve ground waters or surface waters.
- B. Site plan approval.** Prior to approval of the site development plan or final subdivision plat, the Mayor or his designee shall determine whether there is a need for a stormwater management plan based upon the standards outlined in the subdivision regulations, or ordinances of the Town, if a stormwater management plan is required, such plan shall first be submitted to the Mayor or his designee for review and recommendations prior to consideration by the Planning Commission.
- C. Improvements required.** The Planning Commission may require, as necessary, structural or other improvements designed to detain the level and intensity of stormwater runoff associated with the land development site consistent with the requirements outlined in the subdivision regulations and ordinances. All structures or other improvements constructed to meet the requirements of this article shall remain in the ownership of the property owner, who shall be responsible for cleaning and maintaining such improvements unless an alternative plan is approved by the Planning Commission.